UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/817,005	03/23/2001	Robert Wesley Bossemeyer JR.	AMT-9707C1	5713

34431 7590 12/04/2006

HANLEY, FLIGHT & ZIMMERMAN, LLC
150 S. WACKER DRIVE
SUITE 2100
CHICAGO, IL 60606

EXAMINER	
STORM, DONALD L	

ART UNIT	PAPER NUMBER
2626	

DATE MAILED: 12/04/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	09/817,005	BOSSEMEYER, ROBERT WESLEY	
	Examiner	Art Unit	
	Donald L. Storm	2626	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE _3_ MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *20 October 2006*.

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-32* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1,2,5-12,17,18,23,24,26 and 27* is/are rejected.

7)☒ Claim(s) *3,4,13-16,19-22,25 and 28-32* is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☒ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All .b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☐ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

1. The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.

Specification

2. The title is objected to because it is not sufficiently descriptive of the invention. A new title is required that is clearly indicative of the invention to which the claims are directed. See MPEP § 606.01. The Examiner suggests that the Applicant consider a title including these elements: "Criteria for Speech Input to a Speech Reference Enrollment Method and Apparatus."

Claim Informalities

3. Claims 3, 4, 13-16, 19-22, 25, and 28-32 are objected to as being (directly or indirectly) dependent upon a rejected base claim. See MPEP § 608.01(n)V.

Claim Rejections - 35 USC § 103

Boutaud

4. Claim 27 is rejected under 35 U.S.C. 103(a) as being unpatentable over Boutaud et al. [US Patent 5,072,418].

5. Regarding claim 27, Boutaud [see Fig. 17] describes speech recognition, verification, and enrollment. Boutaud's description makes obvious the content and functionality of the recited limitations recognizable as a whole to one versed in the art as the following terminology:

an adjustable gain amplifier connected to an input signal, where a gain input of the amplifier can be adjusted both up and down during receipt of the input [see Fig. 1a, items 31, 23, 21, and their descriptions, especially at column 45, lines 19-55, of an automatic gain control system to raise or lower the gain of an input signal];

an amplitude comparator to compare an output of the adjustable gain amplifier [see Fig. 1a, items 31, 77, 23, 29, 21, and their descriptions, especially at column 45, lines 28-31, of the MUX selecting the contents of ACCB and comparing the contents of the accumulator ACC to ACCB];

the comparison is to a saturation threshold [see Fig. 1a and 1b, items 23, 85, and their descriptions, especially at column 16, lines 42-56, of the accumulator 23 loaded with the most positive number in the saturation mode (ST0 set)];

a feature comparator connected to an output of a feature extractor [at column 34, lines 1-15, as a template matching algorithm is provided with a spectrum converted by a processor that converts input to spectrum].

Boutaud does not explicitly describe a speech signal input to the adjustable gain amplifier.

Boutaud [at column 45, line 56] also points out that the adjustable gain amplifier can be used in an audio amplifier and provide the advantage of conditioning the input signal so that it can be more effectively processed. To the extent that Boutaud does not necessarily include the speech signal as input to the adjustable gain amplifier, it would have been obvious to one of ordinary skill in the art of speech recognition, verification, and enrollment at the time of invention to include the concepts described by Boutaud, at least including the adjustable gain amplifier, and inputting the speech signal to it because that could advantageously condition the speech signal so that it can be more effectively processed by the spectrum converter and comparator.

Double Patenting

6. The nonstatutory double patenting rejection is based on a judicially created doctrine grounded in public policy (a policy reflected in the statute) so as to prevent the unjustified or

improper timewise extension of the "right to exclude" granted by a patent and to prevent possible harassment by multiple assignees. A nonstatutory obviousness-type double patenting rejection is appropriate where the conflicting claims are not identical, but at least one examined application claim is not patentably distinct from the reference claim(s) because the examined application claim is either anticipated by, or would have been obvious over, the reference claim(s). See, e.g., *In re Berg*, 140 F.3d 1428, 46 USPQ2d 1226 (Fed. Cir. 1998); *In re Goodman*, 11 F.3d 1046, 29 USPQ2d 2010 (Fed. Cir. 1993); *In re Longi*, 759 F.2d 887, 225 USPQ 645 (Fed. Cir. 1985); *In re Van Ornum*, 686 F.2d 937, 214 USPQ 761 (CCPA 1982); *In re Vogel*, 422 F.2d 438, 164 USPQ 619 (CCPA 1970); and *In re Thorington,* 418 F.2d 528, 163 USPQ 644 (CCPA 1969).

A timely filed terminal disclaimer in compliance with 37 CFR 1.321(c) or 1.321(d) may be used to overcome an actual or provisional rejection based on a nonstatutory double patenting ground, AND provided the conflicting application or patent is shown to be commonly owned with this application or claims an invention made as a result of activities undertaken within the scope of a joint research agreement. See 37 CFR 1.130(b).

Effective January 1, 1994, a registered attorney or agent of record may sign a terminal disclaimer. A terminal disclaimer signed by the assignee must fully comply with 37 CFR 3.73(b).

U.S. Patent 6,012,027

7. Claims 1, 2, 5-12, 17, 18, 23, 24, and 26 are rejected on the ground of nonstatutory, obviousness-type double patenting as being unpatentable over claims 7-8 of U.S. Patent 6,012,027. Although the conflicting claims are not identical, they are not patentably distinct from each other because a person of ordinary skill in the art would conclude that the invention defined in the claims in issue is an obvious variation of the invention defined in the claims in the patent.

8. Independent claim 1, and dependent claims 2 and 5-10, of this application are not patentably distinct from claims 1-9 of U.S. Patent 6,012,027 because the claims are set forth including obviously similar phrases.

However, claim 1, and by dependency claims 2 and 5-10, of this application do not explicitly include U.S. Patent 6,012,027's claimed limitation combination of a vocabulary describing a word, (d) determining a duration of the second utterance, (e) when the duration is less than a minimum duration, requesting a user speak a third utterance of the vocabulary word and proceeding to step (i), as recited in its claim 1, and by dependency claims 2-9.

However, claim 7, dependent to claim 1, this application does not explicitly include U.S. Patent 6,012,027's additional claimed limitation of (f3) returning to step (c), as recited in its claim 6.

It would have been obvious to one of ordinary skill in the art of computerized speech enrollment at the time that the invention was made that claim limitations in U.S. Patent 6,012,027 claims differ from those in this application only by functions and limiting descriptions that can be eliminated if the effect of the additional functions and descriptions is unneeded or undesired. If the functionality provided by the additional limitations and descriptions were not desired, it would have been obvious to eliminate it, and so achieve the advantage of simplifying the processing.

Similarly, it would have been obvious that the additional limitations provided by the dependent claims 2-9 of U.S. Patent 6,012,027 should not have been included if their added functions were not desired because their elimination would further simplify processing.

9. Independent claim 11, and dependent claim 12, of this application are not patentably distinct from claims 10-14 of U.S. Patent 6,012,027 because the claims are set forth including obviously similar phrases.

However, claim 11, and by dependency claim 12, of this application do not explicitly include U.S. Patent 6,012,027's claimed limitations of a vocabulary describing a word, (c) determining if the first utterance exceeds an amplitude threshold and (d) when the first utterance does not exceed the amplitude threshold, return to step (a), as recited in its claim 10, and by dependency claims 11-14.

It would have been obvious to one of ordinary skill in the art of computerized speech enrollment at the time that the invention was made that claim limitations in U.S. Patent 6,012,027 claims differ from those in this application only by functions and limiting descriptions that can be eliminated if the effect of the additional functions and descriptions is unneeded or undesired. If the functionality provided by the additional limitations and descriptions were not desired, it would have been obvious to eliminate it, and so achieve the advantage of simplifying the processing.

Similarly, it would have been obvious that the additional limitations provided by the dependent claims 11-14 of U.S. Patent 6,012,027 should not have been included if their added functions were not desired because their elimination would further simplify processing.

10. Independent claim 17, and dependent claim 18, of this application are not patentably distinct from claims 15-20 of U.S. Patent 6,012,027 because the claims are set forth including obviously similar phrases.

However, claims 17, and by dependency claim 18, of this application do not explicitly include U.S. Patent 6,012,027's claimed limitations of a vocabulary describing a word, (d) determining a signal to noise ratio and (e) when the signal to noise ratio is less than a

predetermined signals to noise ratio, returning to step (a), as recited in its claim 15, and by dependency claims 16-20.

It would have been obvious to one of ordinary skill in the art of computerized speech enrollment at the time that the invention was made that claim limitations in U.S. Patent 6,012,027 claims differ from those in this application only by functions and limiting descriptions that can be eliminated if the effect of the additional functions and descriptions is unneeded or undesired. If the functionality provided by the additional limitations and descriptions were not desired, it would have been obvious to eliminate it, and so achieve the advantage of simplifying the processing.

Similarly, it would have been obvious that the additional limitations provided by the dependent claims 16-20 of U.S. Patent 6,012,027 should not have been included if their added functions were not desired because their elimination would further simplify processing.

11. Independent claim 23, and dependent claims 24 and 26, of this application are not patentably distinct from claims 7 and 8 of U.S. Patent 6,012,027 because the claims are set forth including obviously similar phrases.

However, claims 23 and 26 of this application does not explicitly include U.S. Patent 6,012,027's claimed limitations of a vocabulary describing a word, (d) determining a duration of the second utterance; (e) when the duration is less than a minimum duration., requesting a user to speak a third utterance of the vocabulary word and proceeding to step (i); (g) determining a first similarity between the plurality of features from the first utterance and the plurality of features from the second utterance; (h) when the first similarity is less that a predetermined similarity , requesting a user to speak a third utterance of the vocabulary word; (i) extracting the plurality of features from the third utterance; (j) determining a second similarity between the plurality of features from the first utterance and the plurality of features from the third utterance; and (k)

when the second similarity is greater that or equal to the predetermined similarity, forming a reference for the vocabulary word, as recited in its claim 1, and by dependency claims 7-8. In addition, the third utterance must necessarily be received, as explicitly recited in claim 26 of this application, for extracting the plurality of features.

However, claim 24, dependent to claim 23, does not explicitly include U.S. Patent 6,012,027's claimed limitations of (d) determining a duration of the second utterance; (e) when the duration is less than a minimum duration., requesting a user to speak a third utterance of the vocabulary word and proceeding to step (i), as recited in its claim 1, and by dependency claims 7-8.

It would have been obvious to one of ordinary skill in the art of computerized speech enrollment at the time that the invention was made that claim limitations in U.S. Patent 6,012,027 claims differ from those in this application only by functions and limiting descriptions that can be eliminated if the effect of the additional functions and descriptions is unneeded or undesired. If the functionality provided by the additional limitations and descriptions were not desired, it would have been obvious to eliminate it, and so achieve the advantage of simplifying the processing.

Similarly, it would have been obvious that the additional limitations provided by the dependent claim 8 of U.S. Patent 6,012,027 should not have been included if their added functions were not desired because their elimination would further simplify processing.

Response to Arguments

12. The prior Office action, mailed April 20, 2006, objects to the title and claims, and rejects claims under *35 USC § 103*, citing Vysotsky, Sakoe, and Boutaud. The Applicant's arguments and changes in RESPONSE TO THE OFFICE ACTION DATED APRIL 20, 2006, filed October 20, 2006, have been fully considered with the following results.

13. With respect to objection to the title, the changes entered by amendment are not sufficiently descriptive of the subject matter for which a patent is sought. Accordingly, the objection is maintained.

14. Amendments to the abstract and to the body of the specification are acknowledged.

15. With respect to objection to the claims as dependent upon a rejected base claim, some claims remain dependent upon rejected base claims. Those objections that remain are repeated elsewhere in this Office action. The objections of the previous Office action to claims other than those objected to above are removed.

16. With respect to objection to those claims needing clarification, the amendment provides clear descriptions of the claimed subject matter. Accordingly, the objections are removed.

17. With respect to rejection of claims under *35 USC § 103*, citing Vysotsky and Sakoe in combination, the Applicant's arguments appear to be as follows:

The Applicant's argument takes issue with the Examiner's conclusion that a scoring parameter for which greater similarity is indicated by higher values is more convenient because the record does not include evidence to indicate artisans would find it convenient. This argument is persuasive because even in combination Vysotsky and Sakoe do not suggest doing what the Applicant has done for convenience of the artisan. The record does not make it clear that distance and similarity are viable alternatives that may be adapted to serve the same purpose for convenience. In addition, both Vysotsky and Sakoe provide their respective functionalities as they describe them, without needing a change to a different scoring parameter.

The Applicant's arguments have been fully considered and they are persuasive. Accordingly, the rejections are removed.

18. With respect to rejection of claim 27 under *35 USC § 103*, citing Boutaud, the Applicant's arguments appear to be as follows:

The Applicant's argument appears to be that a prima facie case of obviousness has not been established because Boutaud does not explicitly, inherently, or necessarily describe a system that has an adjustable gain amplifier. This argument is not persuasive because establishment of a prima facie of obviousness does not require that a single reference explicitly, inherently, or necessarily describe all claim limitations. As the Applicant's reference to MPEP § 2143.03 indicates, a prima facie case of obviousness exists if all claim limitations are suggested by the prior art. This argument is not persuasive because Boutaud [at column 45, lines 50-58] explicitly describes a system having an adjustable gain amplifier, for example, an audio amplifier using automatic gain control in which the PID algorithm is beneficial.

The Applicant's arguments have been fully considered, but they are not persuasive. Accordingly, the rejection is maintained.

19. With respect to rejection of claim 28 under *35 USC § 103*, citing Boutaud, the changes entered by amendment include the feature extractor forming a histogram.

The reference Boutaud does not explicitly describe that limitation. The whole structure and interaction expressed by the combination of all limitations is not made obvious compared to the prior art of record for the whole invention of the claim, particularly with an input gain that can be adjusted both up and down during speech input and comparison of a saturation threshold to an adjustable gain amplifier output. Accordingly, the rejection is removed. The Applicant's

assertions with respect to the references have been considered, but they are moot in view of the new claim element.

20. With respect to statutory type double patenting rejection of claims under *35 USC § 101*, the changes entered by amendment provide an invention that is not drawn to identical subject matter as claims 18 and 20 of the patent. Accordingly, the rejections are removed.

21. With respect to nonstatutory obviousness-type double patenting rejection of claims 3, 13, 15-16, and 19 under the judicially created doctrine of nonstatutory obviousness-type double patenting, the changes entered by amendment include receiving another first occurrence of the word.

The claims in issue US Patent 6,012,027 do not explicitly include that limitation or make such a limitation obvious for the whole structure and interaction expressed only by the claims in issue, particularly with first, second, and third utterances of the word. Accordingly, the rejections are removed.

22. With respect to nonstatutory obviousness-type double patenting rejection of claims 27-29 under the judicially created doctrine of nonstatutory obviousness-type double patenting, the changes entered by amendment include compare an output of the adjustable gain amplifier to a saturation threshold.

The claims in issue US Patent 6,249,760 do not explicitly include that limitation or make such a limitation obvious for the whole structure and interaction expressed only by the claims in issue, particularly with up and down adjustment during receipt of the input speech signal. Accordingly, the rejections are removed.

23. With respect to nonstatutory obviousness-type double patenting rejection of claims 1, 2, 5-12, 17, 18, 23, 24, and 26, the Applicant implies that a terminal disclaimer has not yet been filed. Since no accepted terminal disclaimer was found in the Office file of this application, the rejections are maintained.

Conclusion

24. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

25. Some patent correspondence and/or fees may be submitted using the Office's electronic filing system (EFS). See the Office's Internet Web site for additional information, for example http:// www. USPTO. gov/ ebc/ ebc_faqs. htm. Any response to this action may be mailed to:

Mail Stop AF

Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

or faxed to:

(571) 273-8300, (please mark "EXPEDITED PROCEDURE"; for formal communications and for informal or draft communications, additionally marked "INFORMAL" or "DRAFT")

Some patent correspondence may be delivered by hand or delivery services, other than the USPS, addressed as follows and brought to U.S. Patent and Trademark Office, Customer Service Window, **Mail Stop AF**, Randolph Building, 401 Dulany Street, Alexandria, VA 22314

26. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Donald L. Storm, of Division 2626, whose telephone number is (571) 272-7614. The examiner can normally be reached on weekdays between 7:00 AM and 3:30 PM Eastern Time. If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Richemond Dorvil can be reached on (571) 272-7602.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Inquiries regarding the status of submissions relating to an application or questions on the Private PAIR system should be directed to the Electronic Business Center (EBC) at 866-217-9197 (toll-free) or 571-272-4100 between the hours of 6 a.m. and midnight Monday through Friday EST, or by e-mail at: ebc@uspto.gov. For general information about the PAIR system, see http://pair-direct.uspto.gov. If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

Donald L. Storm

Donald L. Storm
Examiner, Division 2626

November 29, 2006